

What is claimed is:

1. In an information processing system, a method for alternative wiring for logic design, the method comprising:
  - 5 maintaining information descriptive of alternative wiring for each of multiple predetermined logic patterns;  
for a logic network, determining a portion of the logic network as corresponding to one of the multiple predetermined logic patterns; and  
determining an alternative wire for the logic network based on information
  - 10 maintained in the maintaining step that is descriptive of alternative wiring for the one of the multiple predetermined logic patterns.
2. The method according to claim 1, wherein the determining steps do not include performing Boolean implication.
- 15 3. The method according to claim 1, wherein the determining steps include performing Boolean implication, and the performing of steps for Boolean implication is limited to an amount that takes no more than 19/20 of all time required by the method to identify an alternative wire given a target wire, on average for a logic network for a user.
- 20 4. The method according to claim 3, wherein the amount is an amount that takes no more than 9/10 of all time required by the method to identify an alternative wire given a target wire, on average for a logic network for a user.
- 25 5. The method according to claim 1, wherein the step of determining a portion of the logic network as corresponding to one of the multiple predetermined logic patterns comprises pattern-matching a graph of the portion of the logic network to a graph of the one of the multiple predetermined logic patterns.

6. The method according to claim 1, wherein:

the predetermined logic patterns include patterns associated with logic building blocks used in logic design;

the logic network was designed using at least some of the logic building blocks;

5 and

the step of determining a portion of the logic network as corresponding to one of the multiple predetermined logic patterns comprises realizing that the portion of the logic network was designed using a logic building block with which the one of the multiple predetermined logic patterns is associated.

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7. A system for alternative wiring for logic design, the system comprising:

means for maintaining information descriptive of alternative wiring for each of multiple predetermined logic patterns;

means for determining, for a logic network, a portion of the logic network as

15 corresponding to one of the multiple predetermined logic patterns; and

means for determining an alternative wire for the logic network based on information maintained by the means for maintaining that is descriptive of alternative wiring for the one of the multiple predetermined logic patterns.

20 8. The system according to claim 7, wherein the two means for determining do not include means for performing Boolean implication.

9. The system according to claim 7, wherein the two means for determining include means for performing Boolean implication that is configured to perform only so much  
25 Boolean implication as to take no more than 19/20 of all time required by the system to identify an alternative wire given a target wire, on average for a logic network for a user.

10. The system according to claim 7, wherein the means for performing Boolean implication that is configured to perform only so much Boolean implication as to take no

more than 1/2 of all time required by the system to identify an alternative wire given a target wire, on average for a logic network for a user.

11. The system according to claim 7, wherein the means for determining a portion of  
5 the logic network as corresponding to one of the multiple predetermined logic patterns comprises means for pattern-matching a graph of the portion of the logic network to a graph of the one of the multiple predetermined logic patterns.

12. The system according to claim 7, wherein:  
10 the predetermined logic patterns include patterns associated with logic building blocks used in logic design;  
the logic network was designed using at least some of the logic building blocks;  
the means for determining a portion of the logic network as corresponding to one  
of the multiple predetermined logic patterns makes its determination based on realizing  
15 that the portion of the logic network was designed using a logic building block with which the one of the multiple predetermined logic patterns is associated.

13. A method for computer-aided design, comprising:  
determining a logic design including selecting predetermined logic building  
20 blocks for inclusion into the logic design, wherein the predetermined logic building blocks have been pre-analyzed for alternative wiring, and alternative wiring information is available for the predetermined logic building blocks;  
recording retrieval information for a portion of the logic design that is from one  
of the predetermined logic building blocks, wherein the retrieval information enables  
25 later look-up of alternative wiring information for the portion of the logic design, wherein the alternative wiring information for the portion of the logic design is from the alternative wiring information that is available for the predetermined logic building blocks.